

What is claimed is:

1. A sprayable composition for forming a cover layer over a selected material, the composition having protective layer forming ingredients, in approximate pounds and
5 gallons, consisting essentially of:
 - (a) 150 to 1300 pounds of a bulking/setting material;
 - (b) 0.5 to 20 pounds of a water soluble polymer; and
 - (c) 100 gallons of water as a carrier for the
bulking/setting material and the polymer, the
composition, after spraying, becoming
10 water-resistant.
- 15 2. A composition as defined in claim 1 wherein the bulking/setting material includes gypsum.
3. A composition as defined in claim 1 wherein the bulking/setting material includes flyash.
- 20 4. A composition as defined in claim 1 wherein the polymer is a cellulosic polymer.
- 25 5. A composition as defined in claim 1 which includes, in approximate pounds and gallons, the following ingredients:
 - (a) 200 to 350 pounds of gypsum for the bulking/setting agent;
 - (b) 1 to 20 pounds of a cellulosic polymer for the water soluble polymer;
 - (c) 2 to 40 pounds of a clay;
 - 30 (d) 50 to 100 pounds of a fibrous material; and
 - (e) 100 gallons of water.

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- 35 6. A composition as defined in claim 1 which includes, in approximate pounds and gallons, the following ingredients:
 - (a) 250 to 300 pounds of gypsum for the

- bulking/setting agent;
- (b) 2 to 10 pounds of a cellulosic polymer for the water soluble polymer;
- (c) 20 to 35 pounds of a clay;
- 5 (d) 60 to 80 pounds of a fibrous material;
- (e) 0.1 to 0.5 pounds of a retarder;
- (f) 0.25 to 2 gallons of a foaming agent; and
- (g) 100 gallons of water.

10 7. A composition as defined in claim 1 which includes, in approximate pounds and gallons, the following ingredients:

- (a) 400 to 1200 pounds of flyash for the bulking/setting agent;
- 15 (b) 0 to 5 pounds of a water soluable cellulosic polymer;
- (c) 0.1 to 5 pounds of a water soluble superabsorbant polymer;
- (d) 5 to 100 pounds of a clay;
- 20 (e) 0 to 100 pounds of a fibrous material; and
- (e) 100 gallons of water.

8. A composition as defined in claim 1 which includes, in approximate pounds and gallons, the following ingredients:

- 25 (a) 600 to 1200 pounds of flyash for the bulking/setting agent;
- (b) 0 to 3 pounds of a water soluable cellulosic polymer;
- 30 (c) 0.5 to 3 pounds of a water soluble superabsorbant polymer;
- (d) 40 to 60 pounds of a clay;
- (e) 0 to 100 pounds of a fibrous material;
- (f) 0.3 to 0.7 pounds of a retarder;
- 35 (g) 0.25 to 2 gallons of a foaming agent; and
- (h) 100 gallons of water.

9. A method for forming a cover layer over a selected material, the method comprising:

- (A) mixing the cover forming ingredients, in approximate pounds and gallons, consisting essentially of:
- (a) 150 to 1300 pounds of a bulking/setting material;
- (b) 0.5 to 20 pounds of a water soluble polymer; and
- (c) 100 gallons of a liquid carrier for the bulking/setting material and the polymer; and
- (B) spraying the composition to form a water-resistant and flexible layer over the material.

10. The method according to claim 9 further including a step of:

- (C) allowing the sprayed composition to set up to provide a water-repellent cover.

15. The method according to claim 9 wherein the liquid carrier in step (A) is an aqueous leachate collected from the material being covered.

20. The method according to claim 9 wherein the liquid carrier in step (A) is water.

25. The method according to claim 9 wherein step (A) includes mixing, in approximate pounds and gallons, the following ingredients:

- (a) 200 to 350 pounds of gypsum for the bulking/setting agent;
- (b) 1 to 20 pounds of a cellulosic polymer for the water soluble polymer;
- (c) 2 to 40 pounds of a clay;
- (d) 50 to 100 pounds of a fibrous material; and

(e) 100 gallons of a liquid carrier.

14. The method according to claim 9 wherein step (A) includes mixing, in approximate pounds or gallons, the following ingredients:

(a) 400 to 1200 pounds of flyash for the bulking/setting agent;

(b) 0 to 5 pounds of a water soluble cellulosic polymer;

(c) 0.1 to 5 pounds of a water soluble superabsorbant polymer;

(d) 5 to 100 pounds of a clay;

(e) 0 to 100 pounds of a fibrous material; and

(e) 100 gallons of a liquid carrier.

15. An apparatus for applying a sprayable composition for forming a cover layer over a selected material, the apparatus comprising:

a storage tank adapted to contain a slurry including ingredients of the sprayable composition;

means for pumping having an inlet port and an outlet port, said inlet port connected to said tank;

conduit means having first and second ends, said first end connected to said pumping means outlet;

25 means for generating and injecting foam into said conduit means between said pumping means and said second end of said conduit; and

means for spraying connected to said second end of said conduit means.

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16. An apparatus as defined in claim 15 wherein said conduit means includes a means for mixing disposed between said means for generating and injecting foam and said means for spraying.

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17. An apparatus as defined in claim 15 wherein said means for generating and injecting foam includes means for regulating the amount of the foam injected into said conduit.

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18. An apparatus for preparing a sprayable composition for forming a cover layer over a selected material, the apparatus comprising:

10 a storage tank adapted to contain a slurry including ingredients for the sprayable composition, said storage tank including means for agitating the contents thereof; and

15 means for generating and injecting foam into said storage tank adjacent to said means for agitation, said means for agitating mixing the foam and contents of said tank.

19. An apparatus as defined in claim 18 further including means for pumping having an inlet port and an outlet port, said inlet port connected to said tank and said outlet port connected to a means for spraying.

20. An apparatus as defined in claim 19 further including means for recirculation having an inlet connected to said pump outlet and an outlet connected to said tank adjacent to said means for agitation and wherein said means for generating and injecting foam is connected to said recirculation means.

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